

ABSTRACT

An optical device can realize a further severer wave synthesizing/separation characteristic, compared with the characteristic in the past. The optical device includes

5 a branching filter which separates wavelength division multiplexed signal lights of a plurality of wavelength groups, into first wavelength groups and second wavelength groups consisting of wavelength groups which do not come into contact with the wavelength groups making up the first

10 wavelength groups, on the wavelength axis; a functional circuit that functionally processes the wavelength groups on a wavelength group-by-group basis of the separated first wavelength groups and second wavelength groups; and a

15 multiplexer connected to the branching filter through the functional circuit, for synthesizing the separated first wavelength groups and second wavelength groups.